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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,359	12/01/2003	Carlambrogio Bianchi	60246-306;10766	1318

26096 7590 09/23/2004
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EXAMINER

DUONG, THO V

ART UNIT PAPER NUMBER

3743

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,359

Applicant(s)

BIANCHI ET AL.

Examiner

Tho v Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Receipt of applicant's amendment filed 8/24/2004 is acknowledged. Claims 1-4 and 6-10 are now pending.

Response to Arguments

Applicant's arguments with respect to claims 1-4 and 6-10 have been considered but are moot in view of the new ground(s) of rejection.

Specification

The amendment filed 8/24/2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the added material of "the vertical fins 208 supplement horizontal fins 209 to provide additional control over the outlet air flow" is not supported by the original disclosure.

Applicant is required to cancel the new matter in the reply to this Office Action.

Drawings

The drawings are objected to because the new reference number of "209" introduces a new matter into the instant application since this reference number is now described as horizontal fins which was not described in the original disclosure. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure

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or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-4 and 6-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claimed subject matter of "at least one substantially horizontal fin disposed in the bent coil" is not supported by the original disclosure. Applicant has amended the specification and modified the drawing by indicating horizontal lines shown in Figure 4 as horizontal fins (209). However, the horizontal lines, which are shown in the original figure 4,

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was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor (s), at the time the application was filed, had possession of the claimed invention such as "substantially horizontal fin disposed in the bent coil". Furthermore, if the horizontal lines were purposely to indicate horizontal fins, Figure 5, which shows the cross section of the bent coil, should have shown the horizontal fins. In this instant case, Figure 5 shows only the vertical fin.

Claims 1-4 and 6-10 are further rejected as can be best understood by the examiner.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6 and 8-10 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Martin, Sr, (US 5,284,027). Martin discloses (figures 2,3,18 and column 6, line 51- column 7, line 30) a ducted heating and cooling unit comprising at least one fan (12); a V-shaped bent coil (120) disposed in the downstream direction from the fan; the bent coil having a coil surface through which outlet air is discharged in a first direction and a second different direction (air exits at different openings 106); a duct (102,130) housing the fan and the bent coil; a separation wall (132) disposed between the fan and the bent coil; the duct includes at least one side opening (106) substantially aligned with the second direction (arrow shown air exiting the duct). As regarding claim 2, the direction of air

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exiting outlet (108) at end of the duct is considered to be a first direction, which is longitudinal and the direction of air exiting outlet (108) at two side of the ducts is considered to be a second direction which is at an angle with respect to the first direction. As regarding the limitation of the vertical and horizontal fins, Martin discloses (figure 3) a plurality of fins (104) formed in the bent coil to direct the outlet air substantially perpendicular to the coil surface and diverting the outlet air into different directions. Martin does not show the details of the fins, which include horizontal fins, and vertical fins, in the embodiment of figure 3. However, Martin discloses (figure 13) visually the bent coil comprising fins (444), which includes a plurality of horizontal fins and vertical fins, for the purpose of increasing the heat transfer surface area of the bent coil by having more fins disposed in the bent coil. It would have been obvious to one having ordinary skill in the art to employ the details of horizontal fins and vertical fins, which taught in the embodiment of figure 13, in the bent coil of the embodiment in figure 3 for the purpose of increasing the heat transfer surface area of the bent coil by having more fins disposed in the bent coil.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Martin, Sr. in view of D. E. French (US 1,787,444). Martin substantially discloses all of applicant claimed invention as discussed above except for the limitation that there is a plurality of blowers in the system. French discloses (figure 2) a heat exchanger that has a coil construction (21) disposed within a duct (33) and a plurality of blowers (13) are used to provide air passing through the coil for the purpose of passing more air through the heat exchanger core so that the heat transfer rate of the heat exchanger is increased. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use French's teaching in Martin's heat exchanger

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for the purpose of passing more air through the heat exchanger so that heat transfer rate of the heat exchanger is increased.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Molitor (US 4,540,045) discloses a heat exchanger that has meshes of fins, which includes horizontal fins, and vertical fins.

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Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

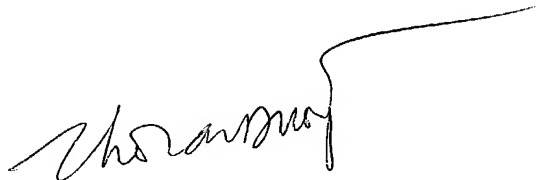
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.



TD

September 15, 2004



Tho Duong

Patent Examiner.